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ABSTRACT

This study examined the relationship of self-concept to intelligence, anxiety, and academic persistence and achievement among young adolescents in a rural school division in Saskatchewan. Eighty-five students in grades 7 and 8 were administered the Piers-Harris Children's Self-Concept Scale, Sarason's Test Anxiety Scale, Sarason's General Anxiety Scale for Children, and a Demographic Information Inventory. Information about the subjects' IQ and CTBS scores and first term marks in English, social studies, science, and mathematics was obtained from school records. Statistical procedures used to analyze the data revealed that self-concept and intelligence were not significantly correlated; that self-concept and both test and general anxiety had a significant negative correlation; and that self-concept and academic achievement had a significant positive correlation, both with and without the intelligence factor included. (TE)

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THE RELATIONSHIP OF SELF-CONCEPT TO INTELLIGENCE, ANXIETY AND ACADEMIC ACHIEVEMENT

RESEARCH CENTRE

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Saskatchewan School Trustees Association

EA 017 962

THE RELATIONSHIP OF SELF-CONCEPT TO INTELLIGENCE, ANXIETY AND ACADEMIC ACHIEVEMENT

By

Ram S. Padwal

S.S.T.A. Research Report No. 108

A report with recommendations prepared under the auspices of the Saskatchewan School Trustees Association Research Centre

April, 1984

Note: The opinions expressed in this report are those of the author and may or may not be in agreement with SSTA officers or trustees, but are offered as being worthy of consideration by those responsible for making decisions.

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Abstract

The study examined the relationship of self-concept to intelligence, anxiety, and academic achievement among young adolescents in a rural school division in Saskatchewan It also investigated the relationship between self-concept and students' desire to stay in school to complete grade 12.

The 85 grades 7 and 8 students were administered the Piers-Harris Children's Self-Concept Scale, Sarason's Test Anxiety Scale, Sarason's General Anxiety Scale for Children, and a Demographic Information Inventory. Information about the subjects' IQ and CTBS scores and first term marks in English, Social Studies, Science, and Mathematics was obtained from school records. Statistical procedures used to analyze the data included Pearson product-moment correlation coefficients, partial product-moment correlation coefficients, t-tests, and multiple correlation coefficient.

The study revealed that self-concept and intelligence were not significantly correlated; that self-concept and both test and general anxiety were significantly negatively correlated; that self-concept and academic achievement (GPA) were significantly positively correlated; that self-concept and academic achievement (GPA) were significantly positively correlated when intelligence was partialled out; that self-concept and intelligence(combined) and academic achievement (GPA) were significantly positively correlated; and that self-concept and students' desire to stay in school were not significantly correlated.

Purposes of the Study

The purposes of the study were as follows: one, to examine the relationship between (a) self-concept and intelligence, (b) self-concept and anxiety, and (c) self-concept and academic achievement; two, to explore the relationship between self-concept and academic achievement when intelligence was partialled out; three, to examine the relationship between self-concept and intelligence (combined) and academic achievement; four, to examine the relationship between self-concept and students' desire to stay in school to complete grade 12.

Need for and Significance of the Study

In February, 1981, a Saskatchewan Department of Education discussion paper (Saskatchewan Education, 1981) revealed that declining enrolment was one of the major problems faced by the rural school boards. According to a recently completed study entitled Early School Leavers in Saskatchewan (Cipywynk, Pawlowich, & Randhawa, 1983), the cumulative rate of early school leaving from grades 8-12 in 1980-81 in Saskatchewan was 31.33%. The overall cumulative dropout rates for students from urban and rural areas were 31.5% and 30.8% respectively. This dropout rate, if it continues, will have serious implications, especially for rural Saskatchewan, because the rural school divisions have already witnessed declining enrolment for the last several years. According to the authors of the study over 65% of the dropouts had earned 'D'

and 'F' grades in the year prior to leaving and that 55% of the students had experienced at least one previous grade failure in school. One can argue that if failure experiences can cause early school leaving, success experiences may affect students' desire to stay in school. In other words, variation in self-concept may co-vary with successes or failures. If it does, it may also co-vary with students' academic achievement, in which case an improvement in self-concept or school achievement may encourage students to stay in school longer.

Since, to the writer's knowledge, no research studies done in rural Saskatchewan examined the relationship of self-concept to intelligence, anxiety, and academic achievement, the writer thought that the findings of this would contribute to educational research.

Review of Literature

The review of literature is discussed under four subheadings: self-concept and intelligence, self-concept and anxiety, self-concept and academic achievement, and early school leavers.

Self-Concept and Intelligence

Although most educators believe that there is a significant positive relationship between self-concept and intelligence, research studies have produced contradictory findings. Nemeroff (1964) and Cozac(1977) found no significant correlation between these two variables; however, Sears (1963) and Coopersmith (1967) did find a significant correlation.

Self-Concept and Anxiety

Research studies (e.g. Coopersmith, 1959; Lamp, 1968; Many & Many, 1975; Patten, 1983) generally tend to reveal a negative relationship between self-concept and anxiety; that is, children with positive self-concept have low levels of anxiety, and children with low self-concept have high levels of anxiety.

Self-Concept and Academic Achievement

Reviews of self-concept literature (Burns, 1979; Purkey, 1970; Thomas, 1973; Wylie, 1974) document the fact that academic achievement and self-concept are positively correlated. A recent quantitative synthesis of studies investigating the relationship between self-concept and academic achievement found an average correlation of .41 for academic self-concept and .29 for general self-concept (Uguroglu & Walberg, 1979).

Early School Leavers

Although, to the writer's knowledge, no studies have been done in Saskatchewan to examine the relationship between students' desire to stay in school and self-concept, Cipywynk et al. (1983) found that some of the reasons for leaving school related to students' perceptions that students were wasting their time in school; that they did not have much freedom; and that they had problems with their teachers.

The Subjects

The subjects were 85 grades 7 and 8 students enrolled in five schools in the Radville School Division #67. These

schools were: Radville Regional High School, Ceylon School, Gladmar Regional High School, Lake Alma School, and Lyndale School. The subjects, who represented both sexes (39 boys and 46 girls) and different IQ and socio-economic levels, were taught in multi-graded situations.

The Instruments

The instruments used in the study were the Piers-Harris Children's Self-Concept Scale (Piers & Harris, 1969), the General Anxiety Scale for Children and the Test Anxiety Scale for Children (Sarason, Davidson, Lighthall, Waite, & Ruebush, 1960). The other two instruments for which data had already been collected for these subjects were the Otis-Lennon Mental Ability Test (Otis & Lennon, 1967) and the Canadian Tests of Basic Skills (King, Hieronymus, & Lindquist, 1974). A Biographical Information Inventory was also administered to the subjects.

Data Collection Procedures

The instruments were administered to the subjects on November 23 and 24 by the researcher. At that time the researcher also obtained from each school information on the subjects' IQ scores, the Canadian Tests of Basic Skills (CTBS) scores, and the first term marks in English, Social Studies, Science, and Mathematics.

Treatment of the Data

The data were treated by the following statistical procedures: Pearson product-moment correlation coefficients, partial product-moment correlation coefficients, t-tests,

and multiple correlation coefficient. In all cases the .05 level of probability was accepted as evidence of a significant relationship.

Findings

The study yielded the following findings:

1. Self-concept and intelligence were not significantly correlated.

2. Self-concept and both test anxiety and general anxiety were significantly negatively correlated.

3. Self-concept and academic achievement (grade point average) were significantly positively correlated.

4. Self-concept and academic achievement (grade point average) were significantly positively correlated when intelligence was partialled out.

5. Self-concept and intelligence (combined) and academic achievement(grade point average) were significantly positively correlated.

6. Self-concept and students' desire to stay in school were not significantly correlated.

7. Test anxiety and IQ were significantly negatively correlated.

8. Test anxiety and academic achievement (grade point average) were significantly negatively correlated.

9. Intelligence and academic achievement were significantly positively correlated.

10. There was a significant difference between the mean achievement score of potential stayers and that of potential

leavers.

11. There was a significant difference between the mean IQ score of potential leavers and that of potential stayers.

Discussion and Implications of Results

The study found that there was no significant relationship between self-concept and intelligence. One explanation of this finding may lie in the fact that students with high IQ's may have low self-perceptions because of the frustrations they experience when they are unable to live up to their parents' and teachers' high expectations. The implication of this finding is that parents and teachers should set realistic expectations for children; this may, by avoiding failure experiences and frustrations, help students to enhance their self-concepts.

The study revealed that both test and general anxiety and self-concept were significantly negatively correlated. One explanation of this finding is that the highly anxious children tend to develop self-disparaging attitudes (Sarason et al., 1960) and feelings of inadequacy (Lighthall, 1963). These attitudes and feelings may lower their self-perceptions. The implication of this finding is that teachers may wish to identify children who are highly anxious. Once this is done, they may want to provide a programme of activities which reduces children's self-disparaging attitudes by stressing success and security. For example, Lund (1953) found that test anxiety could be reduced by arranging test items in an increasing order of difficulty with the easiest items first

and the most difficult last.

Another finding of the study was that self-concept and academic achievement were significantly positively correlated. The implication of this finding is that students' academic performance depends not only on how capable they are, but also on how capable they think they are. Although no one can say with certainty as to which comes first, high performance or high self-concept, one tends to accept Hamachek's (1978) suggestion "that each is mutually reinforcing the other to the extent that a positive change in one facilitates a positive change in the other" (p. 200). Although the study did not show that self-concept and academic achievement were causally related, it is highly desirable that teachers attempt to enhance students' self-concepts by providing opportunities for success and by helping students to feel accepted, comfortable, and secure in school.

The study showed that although the mean self-concept score of potential stayers was higher than that of potential leavers, the difference was not significant. It is to be noted that the study found that there were significant differences between the mean achievement and mean IQ scores of potential leavers and those of potential stayers. However, since only 5 subjects indicated that they were potential leavers, it is suggested that caution be exercised in interpreting these results.

Recommendations for Further Research

1. This study examined the relationship between global self-concept and academic achievement. It is suggested that a study to examine the relationship between academic self-concept and academic achievement be conducted in a rural jurisdiction in Saskatchewan.

2. In this study Students' Self-Reports used to measure students' desire to stay in school asked students to indicate whether it was very likely or whether it was very unlikely that they would stay in school to complete grade 12. It is suggested that any future study examining the relationship between self-concept and students' desire to stay in school use a 5-point or 7-point Likert-type scale to measure accurately the degree of students' desire to stay in school.

3. To the writer's knowledge, this was the first study that examined the relationship between self-concept, intelligence, anxiety, and academic achievement in rural Saskatchewan. It is recommended that similar research studies be conducted in rural Saskatchewan to verify the findings of this study.

4. Research studies should also be conducted to determine whether or not teacher qualifications and teaching practices are significantly related to self-concept.

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